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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/617,813	07/17/2000	Mattias Hyll	1410-695	8288

7590 11/17/2003

Nixon & Vanderhye PC  
8th Floor  
1100 North Glebe Road  
Arlington, VA 22201

EXAMINER
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CORRIELUS, JEAN B

ART UNIT	PAPER NUMBER
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2631

DATE MAILED: 11/17/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/617,813

Applicant(s)

HYLL, MATTIAS

Examiner

Jean B Corrielus

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 9/26/03.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-21 and 23-36 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-21, 23 and 24 is/are allowed.
- 6) ☒ Claim(s) 25 and 34-36 is/are rejected.
- 7) ☒ Claim(s) 26-33 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

### Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

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## **DETAILED ACTION**

### ***Allowable Subject Matter***

1. The indicated allowableness of claims 25 and 34-36 is withdrawn in view of the previously cited reference to Lawrence et al US patent No. 5,694,419 . Rejections based on the cited reference(s) follow.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 25 and 35 are rejected under 35 U.S.C. 102(b) as being anticipated by Lawrence et al US patent No. 5,694,419.

Lawrence et al discloses an apparatus comprising an A/D converter for sampling a received signal including a known signal see col. 4, lines 23-25 and col. 9, line 25; an equalizer 560 for equalizing the sampled signal inherently includes a first and second mechanism to process the real and imaginary components, respectively, (see for instance Patent No. 5,414,732 for the structure of an equalizer); a timing control unit 580 for controlling the A/D converter,

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wherein the equalized real component of the received signal (known signal) is used to control the control unit see col. 9, lines 16-28.

As per claim 35 the timing unit 580, inherently includes timing to synchronize the transmitter with the receiver in order to allow transmitter to communicate with the receiver.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 34 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lawrence et al.

As applied to claim 25 above, Lawrence teaches every feature of the claimed invention but does not explicitly teach that the known signal is pilot tone. However, using the pilot tone as a known signal is old and well known in the art. Given that fact, it would have been obvious to one skill in the art to transmit in receive pilot tone in Lawrence in order to recover and tract sampling rate.

6. Claim 36 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lawrence et al in view of Hyll US patent No. 6,005,893.

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As applied to claim 25 above, Lawrence teaches every feature of the claimed invention but does not explicitly teach that the receiver is a DMT receiver employing and that the equalizer is a frequency domain equalizer. In the same field of endeavor Hyll teaches a DMT receiver fig. 4 employing plural subcarriers to convey information and a frequency domain equalizer 58 . Given that fact, it would have been obvious to one skill in the art at the time of the invention to incorporate such a teaching in Lawrence et al in order to enhance system performance by compensating for phase and magnitude of the pilot tones.

***Allowable Subject Matter***

7. Claims 1-21, 23 and 24 are allowed.
8. Claim 26-33 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
9. **Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks  
Washington, D.C. 20231

**or faxed to:**

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(703) 872-9314

(for informal or draft communications, please label "PROPOSED" or  
"DRAFT")

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive,  
Arlington, VA., Sixth Floor (Receptionist).

10. Any inquiry concerning this communication or earlier communications from the  
examiner should be directed to Jean B. Corrielus whose telephone number is (703) 305-4023.  
The examiner can normally be reached on Monday-Thursday from 7:00 A.M. to 5:30 P.M.

Any inquiry of a general nature or relating to the status of this application or proceeding  
should be directed to the Group receptionist whose telephone number is (703) 305-3800.

  
Jean B. Corrielus

Primary Examiner

TC-2600 11-8-03